

1. A self-descriptive binary data structure for communicating binary data, the data structure comprising:

a plurality of data segments, each of the plurality of data segments comprising a segment header and a data field, the segment header descriptive of the corresponding data segment;

a target data set within the data field; and

a data structure descriptor descriptive of the data structure, the data structure descriptor configured to identify the location of the target data set within the data field.

2. The data structure of claim 1, further comprising a customizable directory descriptor, the customizable descriptor configured to provide a directory of the data stored in each of the data fields within the data structure.

3. The data structure of claim 2, wherein the target data set comprises a bootstrap executable, the bootstrap executable configured to reference the customizable directory descriptor and to identify a location of a second target data set within the data structure using the customizable directory descriptor.

4. The data structure of claim 3, wherein the bootstrap executable is further configured to access the second target data set within the data structure.

5. The data structure of claim 1, further comprising a data structure version descriptor configured to indicate a version of the data structure.

6. The data structure of claim 1, further comprising a data structure name descriptor configured to indicate a name of the data structure.
7. The data structure of claim 1, further comprising a data structure type descriptor configured to indicate a type of the data structure.
8. The data structure of claim 1, further comprising a data structure count descriptor configured to indicate a number of the plurality of data segments within the data structure.
9. The data structure of claim 1, wherein the target data set is an executable.
10. The data structure of claim 1, wherein the target data set is a code image.
11. The data structure of claim 1, wherein one of the plurality of data segments is an alignment data segment configured to align the size of the data structure for at least one of error detection and correction.
12. The data structure of claim 1, wherein the data segment header comprises a flag field configured to store a flag, the flag descriptive of the data stored in the data field.

13. A system for communicating binary data using a self-descriptive binary data structure, the system comprising:

- a communications channel;
- a source communication device connected to the communications channel and configured to transmit a self-descriptive binary data structure;
- and
- a target communication device connected to the source communications device via the communications channel and configured to receive the self-descriptive binary data structure from the source communication device.

14. The system of claim 13, wherein the source communication device is further configured to generate the self-descriptive binary data structure.

15. The system of claim 14, wherein the source communication device is further configured to generate the self-descriptive binary data structure from a non-binary data structure.

16. The system of claim 13, wherein the target communication device is further configured to process an executable, the executable stored in the self-descriptive binary data structure.

17. The system of claim 16, wherein the executable comprises a bootstrap executable, the bootstrap executable configured to access a code image within the data structure.

18. A method for communicating binary data using a self-descriptive binary data structure, the method comprising:

generating a plurality of data segments, each of the plurality of data segments comprising a segment header and a data field, the segment header descriptive of the corresponding data segment;

attaching a data structure descriptor to the plurality of data segments, the data structure descriptor descriptive of the data structure;

identifying a target data set within the data field; and

storing a location of the target data set in the data structure descriptor.

19. The method of claim 18, further comprising storing a customizable directory descriptor and providing a directory of the data stored in each of the data fields within the data structure.

20. The method of claim 19, further comprising storing a bootstrap executable and identifying a location of a second target data set within the data structure using the customizable directory descriptor.

21. The method of claim 20, further comprising accessing the second target data set within the data structure.

22. The method of claim 18, wherein generating the plurality of data segments comprises generating an alignment data segment and aligning the size of the data structure for at least one of error detection and correction.

23. The method of claim 18, further comprising communicating the self-descriptive binary data structure between a source communications device and a target communications device.

24. The method of claim 18, wherein generating a plurality of data segments comprises generating the plurality of data segments from a non-binary data structure.

25. The method of claim 18, further comprising processing an executable that is stored in the self-descriptive binary data structure.

26. The method of claim 25, wherein processing an executable comprises processing a bootstrap executable, the bootstrap executable configured to access a code image within the data structure.

27. A method for communicating binary data, the method comprising:
 - providing a self-descriptive binary data structure at a source communications device, the self-descriptive binary data structure having a customizable directory descriptor, the customizable descriptor configured to provide a directory of the data stored in each of the data fields within the data structure;
 - communicating the self-descriptive binary data structure between a source communication device and a target communication device via a communications network; and
 - processing the self-descriptive binary data structure at the target communications device
 - executing a bootstrap executable, the bootstrap executable configured to reference the customizable directory descriptor and to identify a location of a second target data set within the data structure using the customizable directory descriptor.

28. The method of claim 27, wherein providing the self-descriptive binary data structure comprises converting a non-binary data structure into the self-descriptive binary data structure.

29. A computer readable storage medium comprising computer readable code configured to carry out a method for communicating binary data using a self-descriptive binary data structure, the method comprising:

generating a plurality of data segments, each of the plurality of data segments comprising a segment header and a data field, the segment header descriptive of the corresponding data segment;

attaching a data structure descriptor to the plurality of data segments, the data structure descriptor descriptive of the data structure;

identifying a target data set within the data field; and

storing a location of the target data set in the data structure descriptor.

30. The computer readable storage medium of claim 29, wherein the method further comprises storing a customizable directory descriptor and providing a directory of the data stored in each of the data fields within the data structure.

31. The computer readable storage medium of claim 30, wherein the method further comprises storing a bootstrap executable and identifying a location of a second target data set within the data structure using the customizable directory descriptor.

32. The computer readable storage medium of claim 31, wherein the method further comprises accessing the second target data set within the data structure.

33. The computer readable storage medium of claim 29, wherein the method further comprises wherein the data structure descriptor comprises at least one of data structure version descriptor, a data structure name descriptor, a data structure type descriptor, and a data structure count descriptor.

34. The computer readable storage medium of claim 29, wherein the method further comprises generating an alignment data segment and aligning the size of the data structure for at least one of error detection and correction.

35. The computer readable storage medium of claim 29, wherein the method further comprises storing a flag in the data segment header, the flag descriptive of the data stored in the data field.

36. The computer readable storage medium of claim 29, wherein the method further comprises communicating the self-descriptive binary data structure between a source communications device and a target communications device.

37. The computer readable storage medium of claim 29, wherein the method further comprises generating the plurality of data segments from a non-binary data structure.

38. The computer readable storage medium of claim 29, wherein the method further comprises processing an executable that is stored in the self-descriptive binary data structure.

39. The computer readable storage medium of claim 29, wherein the method further comprises processing a bootstrap executable, the bootstrap executable configured to access a code image within the data structure.

40. An apparatus for communicating binary data using a self-descriptive binary data structure, the apparatus comprising:

means generating a plurality of data segments, each of the plurality of data segments comprising a segment header and a data field, the segment header descriptive of the corresponding data segment;

means for attaching a data structure descriptor to the plurality of data segments, the data structure descriptor descriptive of the data structure;

means for identifying a target data set within the data field; and
means for storing a location of the target data set in the data structure descriptor.